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ABSTRACT

Reviewing recent research on efforts to improve the quality of public schooling in the United States, this paper focuses on evidence suggesting that negative by-products often accompany innovations and, moreover, that innovators have tended to disregard their capacity for leaving schools in worse condition than they found them. The analysis concentrates primarily on efforts to make an impact through external funding--the project approach to innovation. Several of the illustrations are drawn from the experiences of the Teacher Corps and its numerous projects, including one that involved the author. The change process is divided into three stages: (1) the planning stage, during which proposals for projects are conceived, developed, and funded; (2) the implementation stage, when the proposed impact is expected to be made; and (3) the evaluation stage, when the degree to which an impact has been made is assessed. The three stages overlap at certain points and are not regarded as mutually exclusive or temporally discrete. Recommendations for avoiding negative by-products are made, and consideration is given to the value of incremental change. (Author/MLF)

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Occasional Paper No. 17

THE IMPACT OF TRYING TO MAKE AN IMPACT, OR THE NEGATIVE SIDE OF NOBLE AMBITIONS

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Introductory Statement

The mission of the Stanford Center for Research and Development in Teaching is to improve teaching in American schools. Current major operations include three research and development programs--Teaching Effectiveness, The Environment for Teaching, and Teaching and Linguistic Pluralism--and two programs combining research and technical assistance, the Stanford Urban/Rural Leadership Training Institute and the Hoover/Stanford Teacher Corps Project. A program of exploratory and related studies provides for smaller studies not part of the major programs.

Reviewing recent research on efforts to improve the quality of public schooling in the United States, this paper focuses on evidence suggesting that negative by-products often accompany innovations and, moreover, that innovators have tended to disregard their capacity for leaving schools in worse condition than they found them. Backfire effects during the planning, implementation, and evaluation stages of educational change are discussed. Recommendations for avoiding negative by-products are made, and consideration is given to the value of incremental change.

THE IMPACT OF TRYING TO MAKE AN IMPACT, OR THE NEGATIVE SIDE OF NOBLE AMBITIONS

Daniel L. Duke

In the past fifteen years a number of books and articles have been written about unsuccessful attempts to improve the quality of public schooling.[1] General agreement exists that efforts to "make an impact" on schools are noble, but that something often goes wrong once the initial conceptualization of change is operationalized. The accounts typically conclude with practical suggestions for overcoming obstacles to change and for eliminating flaws in the innovations themselves.

Craig Locatis and Dennis Gooler have taken a different approach in a provocative article reviewing "technology assessment" and its relevance to education.[2] The art of technology assessment seeks to predict the possible negative as well as positive by-products of technological change. In considering educational change, similarly, we may need to ask whether there are negative by-products to the process--that is, whether our means of introducing changes may themselves have some negative results. In this paper I shall examine some negative by-products of educational change and suggest some measures that may be taken to avoid them. My underlying thesis is that individuals or groups that seek to make an impact on schools often begin to think and behave in ways that are not in the best interests of students and teachers. But with the benefit of the impact research completed to date, innovators can learn not to harm schools while in the very act of trying to help them.

A multitude of means have been employed in the past half century to improve our schools--changes in the quality of curricula, teacher effectiveness, and "life in classrooms." During the early part of the century,

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[1]Numbered notes are at the end of the paper.

Elwood Cubberley and Charles Judd argued that research into educational methods was the best means of exerting an impact on schools.[3] Through the Depression years educational research continued to be regarded as a well-spring of change. Following World War II research began to be linked more closely to development, as private foundations and government agencies tried to stimulate systematic, controlled change.

Among the most far-reaching efforts to make an impact on schools are the federally funded projects under the Elementary and Secondary Education Act (ESEA) and the Teacher Corps. Each provides financial assistance to local education authorities in an effort to upgrade the achievement of students from disadvantaged backgrounds. The nearly 12-year-old network of regional laboratories and research and development (R&D) centers together with the more recently established National Institute of Education have a broader set of objectives. Nonetheless, congressmen still threaten to curtail funds unless impacts on student achievement can be demonstrated to result from research and development.

Were they alive today, Cubberley and Judd probably would look on these large-scale ventures with disappointment. Research does not seem to have provided the desired impetus toward school improvement. The public grows weary and wary of funding new ideas in education. A decade of innovations has failed to stop declining academic achievement or even to make schools safe to attend. In a 1973 poll of Phi Delta Kappans taken by Harold Spears, only 23 percent of the respondents were willing to affirm that the R&D centers and regional laboratories had been successful "in effecting improvement in educational practice at the public elementary and secondary level."[4] His finding is all the more depressing in light of the fact that Phi Delta Kappans might be considered the constituency directly served by the centers and labs. In her "History of the Impact of Research on Teaching" Geraldine Clifford concludes that when change does occur in the quality of American schools, it results more from unplanned diffusion than from conscious efforts to disseminate new ideas.[5]

In the following analysis of the negative by-products of educational change, I shall concentrate primarily on efforts to make an impact through external funding--that is, the project approach to innovation. Several of

my illustrations will be drawn from the experiences of the Teacher Corps and its numerous projects, including the one in which I have been involved. For convenience I shall divide the change process into three stages: (1) the planning stage, during which proposals for projects are conceived, developed, and funded; (2) the implementation stage, when the proposed impact is expected to be made; and (3) the evaluation stage, when the degree to which an impact has been made is assessed. These three stages overlap at certain points and should not be regarded as mutually exclusive or temporally discrete.

The Negative By-products of Change

The Planning Stage

The motives of most individuals and groups that plan to make impacts are unselfish and beyond reproach. It should be noted, however, that the gossip circulating within many projects suggests that innovations are sometimes designed to build professional reputations, advance careers, or maintain institutional visibility more than to benefit students in classrooms.[6] Of course, many negative by-products can emanate from inappropriate goals such as these, and we shall return to them later. But for now, I wish to consider how proposals for change are planned rather than why. In all but the luckiest circumstances, efforts to make impacts can be no better than the quality of the initial plans.

What aspects of planning to make an impact on education tend to undermine the success of the project?

The most obvious characteristic of most planning efforts is the sense of urgency. Requests for proposals typically require considerable time for brainstorming, assessing needs, collaborative goal setting, securing the consent of proposed participants, devising a budget, and preparing the finished proposal. These tasks all must be completed by a specific deadline. Working under severe time constraints, though, has not proved to be conducive to good planning. Anneke and Eric Bredo observe that when time limitations interfere, the planning stage of an innovation can produce a host of vague "symbolic agreements."[7] Once the plans are put

into operation, the "unsolved technical difficulties" and "unresolved goal conflicts" that have been set aside in order to complete the proposal return to haunt the project.

Collaborative planning is a requirement of many proposals for federal funding. The Teacher Corps, for example, expects institutions of higher learning (typically the institutions responsible for soliciting funds) to draw into the planning process teachers, school administrators, and members of the community in which the target school is located. While in theory involving these people seems a desirable, democratic thing to do, realistically it often is impossible. Innovators sometimes resort to creating an impression that decision making has been collaborative, while failing in actuality to make certain that the people who will be affected by the innovation approve of it. Little time is spent anticipating potentially negative by-products of change or building strong personal allegiances to the project.

A third factor that can contribute to planning problems is the tendency of those seeking to make an impact to overcommit themselves. In the spirit of political campaign promises, proposal authors produce long lists of objectives in order to increase the probability of gaining the funding agency's support. Sometimes the proposal authors sincerely believe that educational change can result only from multiple objectives. This belief in comprehensive change is typified by one description of the ambitious Model Schools Project (supported by the National Association of Secondary School Principals) as an "outgrowth of our conviction and experiences that only 'total commitment to total change' will produce significantly improved schools."[8] In a similar vein, the Teacher Corps requires applicants for grants to address a variety of "add-ons" (the Teachers Corps' own mandated objectives, ranging from multicultural education to competency based teacher education) in addition to the applicants' original objectives. One study of the Teacher Corps concludes that major problems developed because the particular projects under investigation attempted "to achieve multiple goals that were in partial conflict with one another."[9]

It can be argued that time constraints, collaborative planning requirements, and the tendency to pursue too many objectives simultaneously are structural problems--in other words, that they are built into the process by which innovations are externally funded. Innovators rarely are free to alter these conditions, though certainly they can be circumvented on occasion. In addition, though, there are planning problems that derive from the innovators themselves. What I shall call naiveté and myopia seem to be the most serious shortcomings.

Naiveté leads many innovators (and funding agencies) to assume that a "needs assessment" is a solid first step toward improving a school.[10] Something akin to wisdom is expected to emerge from discussions with and questionnaires filled out by teachers, students, and parents. But this faith in "needs assessment" presumes that practitioners and consumers of education know what they need in the first place. Often they do not. In reality the "needs assessment" becomes a "wants assessment." Even at that, many participants are not in a position to determine what they want because they are uninformed concerning the options available. If a student has never been introduced to the idea that mathematics can be taught as a set of problem-solving skills, he is unlikely to respond that he wishes his mathematics teacher would place more emphasis on problem solving. Assessments of needs and wants might better be postponed until project participants are familiar with the alternatives.

Naiveté springs from lack of awareness. Myopia, on the other hand, results from overlooking the obvious. Innovators frequently fail to attend to important elements within the change process itself, as Sloan Wayland has observed:

> When proposals for innovations...are made, the advocates' assumptions about the structure of the schools are not usually made explicit. Attention is usually focused on the attributes of the proposed innovation and the points at which the innovation differs from those aspects of the existing system which are being modified or supplemented. Implicit in this approach is the assumption that parts of an on-going system can be modified without giving attention to the possible impact on the other parts of the system.[11]

Ignoring what Wayland terms "the other parts of the system" causes innovators to (1) overlook the readiness of practitioners to change and (2) underestimate the extent to which change results in the redefinition of roles. Such oversights can be destructive.

As is pointed out later in this essay, readiness for change is a critical factor in determining the ultimate success of an innovation. Unfortunately, teachers, students, and parents are rarely assessed in a systematic manner to discover their level of readiness. Willingness does not equal readiness. A given school typically becomes involved in a project because (1) it is close to a sponsoring university, (2) the superintendent or building principal desires a project, or (3) the school is experiencing serious problems. None of these reasons alone is sufficient to justify the school's involvement in large-scale change. Certain questions must first be asked.

Is the faculty prepared for large-scale change? Are they willing to admit that they need to improve (in other words, that they have not been doing as well as they could)? This point is doubtful in many cases. Teachers often see change strictly in terms of ordering new curriculum materials, hiring additional personnel, and providing more planning time. They may be unwilling or unable to see themselves as foci for change. A prevailing attitude such as this is one of the "existing regularities," in Seymour Sarason's words, that make up the "culture" of a school. Several authors argue that a school's culture or its "climate for change" is a vital element in determing the success or failure of an innovation.[12] Teacher Corps projects have often come face to face with unfavorable climates in schools that lack a nucleus ("critical mass" in the innovator's argot) of change-oriented teachers or dynamic administrative leadership. The attitudes of parents, too, are important to consider. If a substantial number are opposed to what they view as experimentation with their children, the climate for change is unfavorable.

I have briefly described one kind of myopia--the type that blinds change agents to the organizational and individual realities with which they must deal. A second type of myopia prevents innovators from foreseeing the full effects of the changes they are proposing. In particular,

they often fail to realize that the changes will involve redefining roles. William Smith, Director of the Teacher Corps, makes no secret of the fact that improving education must encompass role changes: "All with a role or an investment in the education of kids must be involved in the change process, in roles of equality to whatever extent possible."[13] Despite Smith's open declaration, many Teacher Corps projects have failed to provide for the gradual acquisition of new roles by teachers, to create extrinsic rewards for those expected to change, or to guide administrators whose roles must also be subject to change. The Teacher Corps and its projects ultimately are judged by the changes they bring about in students. Perhaps for this reason, changes in teachers and administrators do not receive adequate attention.

Arthur Stinchcombe warns that serious problems can result when innovators overlook the side effects of requiring people (1) to learn new roles; (2) to change roles, which involves "high costs in time, worry, conflict, and temporary inefficiency; (3) to work with strangers, which requires the development of some degree of trust; and (4) to redirect established loyalties.[14] Many innovations stall or fail when teachers become uneasy because of unanticipated pressures such as these. The presence of new faces at a school raises the level of suspicion. A study of the Teacher Corps finds that its policy of using interns full of new ideas to "cause teachers and principals to adopt new positions" fails to lead to the desired changes.[15] In fact, the greater the difference between the views of the interns and those of school personnel, the fewer changes were found to occur.

Sometimes problems derive not from the innovator's alien status in the school or his briefcase full of new ideas but from his failure to give sufficient attention to re-educating the teachers. Sarason maintains that the absence of positive results at a given school that had adopted the New Math occurred because the project's objectives were written in terms of changes in students rather than changes in teachers.[16] Of course, the teachers would have to learn the New Math themselves and feel comfortable with it before their students could be expected to benefit, but this essential step had been omitted--a costly oversight.

Finally, we must consider the negative by-products of the funding process itself. For the sake of illustration, I shall assume that a group composed mostly of teachers and university professors has collaborated on a proposal. Working under tight time constraints, they fashion a document and dispatch it to the funding agency. Presumably, they have been no more nor less naive or myopic than any other group interested in making an impact on schools. What, then, is this group of innovators likely to experience simply by submitting a proposal?

If the proposal is rejected, those who have contributed to it will likely grow disillusioned. High expectations, despite cautions to the contrary, have been generated and disappointed. Time and energy have been expended without remuneration. These can be embittering experiences. The teachers may also feel abandoned; it may seem to them that people in high places do not care about problems "on the firing line."

If, for whatever reason, the proposal is accepted, then playing "the proposal game" will be reinforced. But is it desirable to encourage educators to acquire the behaviors and attitudes implicit in this game? Too often, such proposals are hastily written, poorly researched, and perhaps even slightly dishonest--and the proposal writers know it. In order to win at the game, emphasis was placed on salesmanship, opportunism, and haste rather than quality. Of course, the proposal writers are not entirely at fault. The funding agencies themselves do not always maintain the highest standards when money is available and they feel it must be spent.

The Implementation Stage

The implementation stage of an effort to make an impact may be defined somewhat circularly as that stage for which the planning stage was impatiently endured.

Unfortunately, the planner's dreams often turn into nightmares during implementation. Teachers begin to complain that they are expected to do too much. Faculty morale plummets. Researchers find practitioners unwilling to cooperate in data collection. Negative attitudes and disillusionment increase. Why?

The assumption underlying most proposals for educational change is that something is not right with the existing situation. Contributing to a review of the federal government's role in educational reform, Mario Fantini observes that innovations sometimes "base their own existence on the shortcomings of conventional programs, that is, in order to justify the innovation, criticism is levelled at what is."[17] Thus a proposal for change reflects adversely on those typically expected to implement it--teachers and administrators. It can be argued, then, that practitioners have a vested interest in seeing that innovations fail. Failure becomes vindication, a suggestion that maybe the practitioners have not been performing so inadequately after all.

Efforts to make an impact on schools usually generate a public relations smokescreen during the early months. Practitioners are diverted from thinking too much about the real implications of the project. Lots of meetings are scheduled. Social gatherings are planned. Consultants arrive hawking their wares. New ideas are discussed. In all the hubbub, little time or energy is left for trust building. With their energies absorbed in meeting the crises all new projects must endure, project participants sometimes discover belatedly that they really do not know each other. Worse, time pressures and the many areas of potential conflict inherent in such a project can mean that participants are more likely to become adversaries than friends.

Imagine a typical project from a teacher's point of view. The reason for the project is apparent: the students are not doing as well as they should. Perhaps not as clearly stated, but certainly implied, is that the teachers have been unsuccessful diagnosing student needs and prescribing appropriate instructional treatments. At any rate, outside resource people arrive at the school. They lack credibility in the teachers' eyes ("What do they know about <u>our</u> school?"). Meetings are scheduled (remember that there already have been innumerable meetings during the planning stage). Soon the teachers feel that the project, rather than making their jobs easier (usually a teacher expectation with any project), requires more time and work than before.

One of the curious and inexplicable properties of projects is that they never seem to reach the point where the required meetings actually diminish. In an evaluation of the Alum Rock voucher project, note was taken of the costs to teachers in terms of time and energy:

> Almost all of the voucher teachers reported working extra hours. Fifty percent, in fact, reported working six or more extra hours per week compared to the previous year. Some of the extra demands on teachers' time seemed especially burdensome: 88 percent cited "too many meetings" as a main disadvantage of the demonstration, and 69 percent cited "too much paperwork."[18]

Project leaders view meetings as opportunities to solve problems, but teachers universally regard meetings as work--and relatively unproductive work at that. Since problems typically multiply as projects age, the number of meetings continues to grow until teachers begin to complain that they no longer have time to plan their lessons. Not only do meetings intrude on teachers' planning time and family time, but they can reduce the time available for productive faculty interaction. Such an unanticipated negative development henceforth is labeled a "backfire effect."

Several months into the project the teachers begin to wonder where the payoff is. Perhaps prematurely, they cast about for benefits to students and themselves. Failing to notice any positive changes in <u>their</u> students (teachers rarely look for changes in their colleagues' students) or themselves, the teachers begin to lose the energy with which they initially attacked project objectives. At the very time when high energy is needed, it begins to fade. At this point project leaders are faced with one of the fundamental conflicts of the educational change process. What teachers generally perceive as help is not what outside innovators perceive as help. This "perceptual dissonance" finds outsiders interpreting help in terms of making teachers more "aware" of their problems and their students' problems. Teachers, on the other hand, insist they know their problems already. Being made aware of existing problems without being presented with the tools for alleviating them is more a curse than a blessing. Teachers want specific solutions to problems identified by outside observers, and they want demonstrations of how the solutions work. The outsiders often are ill equipped to satisfy either of these desires.

The combination of extra work and little discernible improvement damages faculty morale. An excellent account of this process in an innovating junior high school is presented by the Bredos. They conclude that trying to make an impact became "an extremely upsetting experience" for teachers.[19] Role confusion, unequal project responsibilities, and too many meetings all compounded the problem. Forrest Parkay offers further evidence of the backfire effects of change. He describes how faculty morale dropped in a Chicago high schoool when an outside consulting group contracted to assist in implementing year-rour.d education. Parkay writes that the teachers were offended because the consultants ignored their battle-wise insights into the problems of an inner-city school.[20]

It is unfortunate when teachers are involved in a school improvement project that reinforces the notion that teachers do not know what they are doing. The result is often a cynical attitude toward improvement in general. Other common undesirable by-products include tensions among the faculty. Inevitably some teachers find themselves working harder on a project than others. These individuals may begin to feel superior to their colleagues. Teachers of elective courses frequently complain that the focus of projects typically is the basic skills curriculum. They feel unimportant and act accordingly. The resentment generated during some projects does not dissipate until long after they have terminated.

Would these bad feelings have surfaced if attention had been devoted to building trust in the initial stage of the project? There is some evidence to indicate that early attention to developing a climate for change pays off in terms of faculty cooperation.[21] Climates for change, however, do not automatically emerge from a preliminary values clarification workshop or a single faculty retreat. Louis Smith and Pat Keith describe how even an intensive summer workshop prior to the opening of a new open-space elementary school failed to ensure harmonious relations among teachers and administrators or a clear notion of what was expected of participants. In fact, there is some evidence that the month-long workshop actually created problems of its own![22] The naive faith that

exposing project participants to a few group dynamics techniques will create trust and project allegiance among individuals accustomed to working in isolation borders on superstition. Care must be taken to cultivate positive attitudes toward the project and toward change before implementation begins. Unfortunately, it takes time to nurture attitudes, and time is usually scarce in any project.

Generating faculty allegiance to a project is no easy matter either. If the project fails, teachers keep their jobs. University professors keep their jobs. The only individuals to suffer material loss are project secretaries, teacher aides, and graduate students serving as research assistants. The energies of these supporting staff members are generally insufficient to sustain projects that fail to muster the active support of primary participants.

Trust, project allegiance, proper attitudes toward careful planning and evaluation of results, respect for quality rather than speed--these are some of the affective dimensions influencing a project's chances for success. There are some attitudes, though, that should be discouraged from developing. For example, unreal expectations, if permitted to grow in the early months of a project, can lead to disillusionment and disinterest.

I have reviewed some of the more obvious negative by-products of educational change during the implementation stage. Efforts to make an impact can also backfire in more subtle ways.

The imperative of the new idea. Very few projects are funded because they promise to implement an established program or replicate a practice of proven worth. Money goes to those who propose unique solutions to problems. New ideas--or old ideas carefully disguised to appear new--capture the imagination of funding agencies. There are few extrinsic rewards for educators who wish to work with the "best existing practices" or to modify credible, well-established programs. In exclusively valuing that which appears to be new, those who seek to encourage the improvement of education actually devalue the successes of the past. But a sound proposal should not be discounted because it is not "sexy," as funding jargon has it.

Goal displacement. No matter how admirable a project's initial goals may be, they can be displaced as a result of the exigencies of the funding game. The project's survival can replace educational improvement as the primary goal. Individuals who directly benefit from the project--those who derive salaries, prestige, or research data from it--sometimes conceal information that might jeopardize refunding or project renewal. Evidence of goal displacement is apparent in the Teacher Corps. During the orientation of Tenth Cycle Teacher Corps participants, project interns were advised openly to "protect their asses."[23] Participants in individual Teacher Corps projects learn to conceal major problems from federal monitors, lest disclosure lead to the project's termination. Similarly, the Teacher Corps central administration is careful to brief project participants before escorting Office of Management and the Budget representatives around local operations. If impact efforts result in tactics such as these, are they worthwhile?

Unethical conduct. Protecting one's own interests is understandable within certain limits. Unfortunately, those limits can be overstepped when goal displacement leads to self-delusion or actual unethical conduct on the part of those with a personal stake in a project's survival. When self-delusion occurs, participants have convinced themselves that despite the elusiveness of "hard data," their project is making a favorable impact on students. These individuals may unearth a wealth of intervening variables to explain the lack of results: "We didn't have enough time or money. The community was resistant. The school administration was uncooperative." Again the question must be asked: if impact efforts encourage excuse making, are they worthwhile?

Excuse making, though, is not necessarily unethical. Concealing or distortingdata and misusing funds are. It is difficult to obtain accurate information on the extent to which projects are stained by improper behavior. Carl and Gloria Grant cite the case of a statistical consultant on a Head Start evaluation who withdrew his name from the final document because of "inaccuracies."[24] Project participants with whom I

have come in contact informally allude to nepotism and the use of project funds for personal benefit. In preparing for a site inspection by a project evaluator, project leaders almost routinely brief participants on what to say and what not to say. Researchers have been known to "take their data and run," leaving behind little that will benefit schools. Occasionally one hears of researchers who even withhold information that might benefit their project because they wish to reserve it for anticipated publication. A final instance of unethical behavior occurs when, faced with budgetary time limits, project participants spend funds on unnecessary items rather than return the extra money to the funding agency.

Dependence on external support. A decade ago Keith Spalding warned that the growing availability of federal funds to educational institutions could prove "damaging" in the long run.[25] In the wake of the Elementary and Secondary Education Act (titled funds), Project Head Start, the Teacher Corps, the Experimental Schools Program, Project Urban-Rural, state schemes such as California's Early Childhood Education program, and private efforts has come a dependence on the external funding of innovations. In many cases local education authorities have become less willing than before to support improvement projects. Instead of stable, long-term efforts to make an impact, the projects that are undertaken are the very ones that have the greatest probability of disappearing. With the departure of external funds goes the impetus to innovate.

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The preceding review of negative by-products during the implementation stage is not intended to imply that those who are attempting to improve our schools are uniformly naive or unprincipled. I merely wish to point out that their efforts have the potential to backfire. Many of the problems thus far described are structural--that is, they are built into the processes by which innovations are encouraged in American schools. Perhaps at no stage are these structural factors more conducive to negative by-products than during evaluation.

The Evaluation Stage

For anyone who has utilized external funds in an attempt to improve the quality of public schooling, an evaluation of the project is virtually mandatory. Evaluation is the primary process by which funders and educators expect to determine whether or not their money has been well spent.

Formal evaluations, however, are not foolproof or uniformly beneficial. Commenting on an external evaluation of Shanti, a Connecticut alternative school, Director Gene Mulcahy noted,

> If its primary goal was to return data to decision makers for decision making, the evidence says it did not. The data provided was not in most cases used for decision making, was old before it was presented, and bore no reasonable relationship to the human resources consumed by Shanti students.[26]

Oren Glick, in review of efforts to evaluate an Experimental Schools Project in Tacoma, Washington, agreed with Mulcahy. He found that evaluation reports "frequently were not available when decisions that could have used the reports were being made" and that they "were often of disappointing value in decision making even when they were...timely."[27]

Evaluations can even leave schools with worse problems than they were encountering before. As a large-scale study of international educational innovation suggests, "Evaluation is important, but often it is connected with unjustified conservatism, and most often it is based on a limited understanding of how the educational system functions and consequently has serious unintended effects."[28]

The most obvious example of an evaluation backfire effect occurs when evaluation is unsystematic, inappropriate, or poorly conducted. Matthew Miles states that evaluations of educational innovations are almost never done properly.[29] A specific illustration of improper evaluation concerns the New Math curriculum materials. Edward Begle, in private communication with me, notes that student achievement in New Math programs typically has been assessed using tests originally designed to measure achievement in traditional mathematics programs. Such a practice is akin to determining the winner of a boxing match by comparing the number of punches thrown by each fighter. The current controversy over group

intelligence tests dramatizes the growing concern over the life-affecting consequences of evaluation techniques that as yet are far from infallible.

Even if the evaluation design is sound, the problem of premature evaluation can still arise. A report submitted to the President by the National Advisory Council on Education Professions Development identified the following weaknesses, among others, in policies and practices associated with project evaluation:

1. Premature evaluation of a project or venture, made before it is fully operational.
2. Preoccupation with so-called "hard data" developed by mass use of standardized tests.
3. Too much concern with final results alone, leading to lack of effort to determine why project objectives were or were not met.[30]

The negative by-products of premature evaluation, particularly where evaluators are obsessed with "hard data" and "final results," manifest themselves in faculty suspicions and unwillingness to cooperate. If time has not been set aside to establish a bond of trust and cultivate a proper attitude toward evaluation (such an attitude cannot be assumed to exist naturally), there is great risk that evaluation efforts will be subverted by practitioners who understandably feel threatened by the possibility of either being judged inadequate by outsiders or losing face among colleagues. Despite the compelling need for baseline data, it must be recognized that collecting data too early can lead to undesirable adversarial relationships between evaluators and practitioners. Egon Guba underscores this point when he acknowledges that evaluation actually may be "dysfunctional to human performance."[31] Is arbitrary or premature evaluation worth the possible failure of the entire effort? Some evaluators, unfortunately, seem prepared to respond in the affirmative.

A third disadvantage that can result from project evaluation is the possibility that the evaluation design will determine the objectives of the project. Evaluation designs can cause innovators to disregard anything that cannot be measured easily. In his foreword to Ronald Corwin's book on the Teacher Corps, Melvin Tumin contends that no sound evaluation of programs such as Title I and Head Start is possible without severely

restricting the process of adapting new ideas to localized contexts.[32] In her analysis of the evaluation of California's Early Childhood Education program, Carolyn Denham concurs with Tumin:

> Unless evaluation is to be a tail wagging the dog, evaluators as well as legislators may have to accept the idea that some desirable program designs are not subject to evaluation of overall program effects. Indeed, centralized product evaluation is fundamentally antithetical to local control. It is counterproductive because it introduces pressures for centralization that undermine the advantages of creativeness and motivation that are reasons for choosing local control.[33]

The final backfire effect during the evaluation stage of a project involves the frequent testing of students. Often proper explanations of why students are being subjected to these tests and self-reports are not provided. It is questionable whether the students directly benefit from the time they devote to taking tests, filling in questionnaires, and responding to interviewers. Stuart Palonsky found that the high school students in his study rarely were even aware of the innovations (modular scheduling, differentiated staffing, team teaching, resource centers, and performance-based teaching) being attempted in their school.[34] There is the additional problem that teachers, reacting to their fear of being judged inadequate, begin to place undue pressure on students to perform well on tests designed to assess project (and teacher) effectiveness. Evidence that student motivation may suffer as the result of external evaluation comes from Martin Maehr, who quotes from a study he conducted with W. M. Stallings:

> Perhaps external evaluation...may at times be followed immediately by higher levels of performance. But is such desirable increase accomplished at the cost of continuing motivation? The present results indicate that external evaluation may eventuate in unfortunate motivational outcomes, particularly in the case of those who are inherently oriented to achievement.[35]

This discussion of negative by-products of evaluation has presumed the basic integrity of the evaluators. Of course, this is not always the case. Egon Guba cites three instances in which evaluators evidence unethical behavior:

1. when evaluators produce whatever findings they feel are politically, economically, or psychologically expedient;
2. when evaluators become closely associated with the development of a project and, in so doing, sacrifice their objectivity;
3. when evaluators go out of their way to present results negatively.[36]

Conditions such as these during the evaluation stage can deeply undermine an entire project.

Summary

The preceding analysis identified a number of ways in which projects undertaken with the best of intentions can have undesirable results. I have termed these negative by-products the backfire effects of trying to make an impact. The literature on educational change is beginning to reveal examples of backfire effects, but the desire to preserve funding sources and protect colleagues continues to prevent extensive discussion of the phenomenon. Where reference is made to backfire effects, the specific project is rarely mentioned. Double-checking and verification thus are difficult. For example, Gordon MacKenzie wryly notes in an article that "one program developed to raise standards and focus more sharply on rigorously defined content increased the failure and drop-out rate."[37] No further description is given of the project or the circumstances surrounding the depressing assessment.

Despite the relatively small amount of "hard data" dealing with the backfire effects of trying to make an impact, it is possible to identify seven major categories:

1. Faculty disillusionment, demoralization, and cynicism toward any future effort to improve the quality of schooling.
2. Depreciation of well-established, proven practices.
3. Development of undesirable attitudes toward the purposes and processes of planning and evaluating educational change.
4. Goal displacement.
5. Unethical behavior.

6. Deterioration of relations between educational practitioners and researchers, and between both groups and funding agency representatives.

7. Waste of resources and money.

Little has been said thus far about the seventh backfire effect. In fact, a brief survey of recent literature dealing with educational innovations turns up an array of reports of wasted resources and money, not to mention time and talent. Several examples follow.

Assessing the impact of introducing open education to a pair of schools in the Boston area, Roland Barth concludes that the underlying assumptions of the project seemed to have been wrong all along:

> Open educators assume that children learn by exploring a variety of materials, by making choices, and by posing and solving their own problems. They also assume that children will welcome opportunities to do these things. Children in the Program did not; the efforts of the young teachers were unsuccessful from the beginning. Following theory and intuition, they encouraged children to make decisions. But many children had limited capacity to attend to a task; the more options made available to them, the more difficult that attending became. A rich environment of manipulative materials only made it less likely that a child could focus on any one.[38]

In the wake of the mistaken assumptions and misused resources came a host of negative by-products ranging from irate parents to frustrated young teachers and confused students.

The impact of trying to make improvements in an all-black Chicago high school was little different from that cited by Barth, except that the students were older and the problem derived less from poor planning than from inadequate outside expertise. Instead of open education, a year-round school was the focus, but increased academic achievement was the ultimate concern in both instances. Commenting on the net results of a three-year involvement with a prestigious consulting firm, Forrest Parkay, chairman of the school's English department, notes that the only accomplishment was "the creation of a bank of behavioral objectives and a series of tests of extremely low validity and reliability."[39] He goes on to point out, "Many teachers report that they are simply not using the approach, because students are more turned off by lists of objectives

than they were with traditional materials."[40]

In an analysis of numerous innovations in education, Margaret Nelson and Sam Sieber find that "there is a negative relationship between quality and cost."[41] Relatively expensive innovations like television instruction, teaching machines, and programmed instruction are perceived by administrators to yield lower-quality results than less expensive innovations such as continuous progress teaching, resource centers, and independent study programs. Reviewing a large number of innovations of the sixties, including team teaching and flexible scheduling, Mary Bentzen contends that many of the supposedly exemplary programs vanished with the termination of their external funding.[42]

Not only has the implementation stage of educational change drawn fire from individuals concerned with cost effectiveness, but a review of educational research and development by the General Accounting Office reports that the 211.2 million dollars expended under the Cooperative Research Act since 1963 produced little evidence of a "significant impact in classrooms."[43] Charges of mismanagement and sheer waste of Department of Health, Education, and Welfare funds are made and documented in a 1972 article in the Los Angeles Times.[44] Making a positive impact on the quality of public schooling apparently is a more elusive and expensive goal than many advocates of educational change would have educators believe.

Making an Impact on the Process of Making an Impact

How can backfire effects be avoided?

Preparing a Plan

Changing schools involves extensive on-site planning. Unless the innovation is developed locally, however, some decisions must be made first. Generally these involve selecting a site and approving a proposal. Choosing a school in which a "climate for change" exists or can be created prior to implementation is the most critical element in any effort to make an impact. A number of characteristics of a "climate for change" are presented in the enlightening description of a successful

Canadian project in Peterborough, Ontario.[45] All residents of the target school were surveyed to determine their willingness to make the sacrifices necessary to launch the innovation. Ultimately, this early preparation and screening paid off. In support of the preliminary screening of school sites, the author of an Organisation for Economic Cooperation and Development manual on innovation strategies states,

> In all schools the "climate" is regarded as the most important factor in the process of innovation. Leadership, participation in decision-making, a problem-solving capacity and openness towards problems and people seem to be important aspects of this climate.[46]

Despite this advice, I must add that really reliable techniques for assessing a school's climate for change are not yet available. They await the hand of a patient and astute researcher.

Planning to Make an Impact

Once a school has been selected, it is necessary to begin on-site planning. No substitute for careful, painstaking planning yet has been discovered. Anneke and Eric Bredo maintain that good plans include (1) "procedures and programs to deal with contingencies before they occur," (2) explicit statements of the expectations for each participant, and (3) clear indications of the desired changes and their anticipated consequences.[47] With reference to the third point, it is ultimately counterproductive to pretend that efforts to make an impact do not involve a psychological threat to people involved or changes in their lives. As Harry Broudy has written so well:

> Apparently it never occurred to the bright, young, eager technologists to ask: how does a man who has spent twenty years of his life teaching introductory French feel when told that a machine could do it better? The resistance of this teacher is not to be explained by the fear of losing his job.... It is to be explained, rather, by the challenge to devaluate his career and thus himself as a person.[48]

Planning must include provisions for the human factors to which Broudy refers. For example, if projects require external evaluation, it must be recognized that teachers are ill prepared to regard evaluation positively. Before evaluators descend on a project, care should be taken to nurture

positive attitudes toward assessment and constructive criticism. A second human factor to consider is the threatening quality of proposed changes. Individuals affected by impact efforts must be apprised of the intended changes prior to implementation, and time and resources must be set aside for building trust and project allegiance among participants. These central concerns will not receive adequate attention, though, until the innovators themselves have acquired a healthy respect for the possible negative by-products of their good intentions. Then innovators will scrap projects when time is too short for developing the appropriate setting for change.

Making an Impact

Once plans have been made and the project is under way, there must be additional efforts to make sure that backfire effects will not occur. Project leaders must be careful, for example, not to punish those who register complaints or concerns. Often dissenters are placed in charge of committees to solve the problems they helped identify or are asked to spend more time working on project objectives than other participants. Such punishment of a sort discourages the kind of criticism that projects need for internal improvement. In addition to supporting critics, project leaders must also support those who form what Ernest House calls the "internal advocacy group."[49] Failing to reward the individuals who give generously of their time and talent can cost a project the allegiance of the critical group of supporters necessary to get things done.

There are other areas that require attention during the implementation stage. If strangers join the project, they need to be properly introduced into the culture of the school and the project. If necessary, efforts should be directed toward reorganizing the organizational communications network in order to alter unproductive problem-referral patterns. In other words, the structure of the school (or its "existing regularities" as Sarason prefers) should be modified sufficiently to permit a more open exchange of complaints and concerns. Otherwise, teachers may continue to take their complaints to the faculty lounge and students may continue to internalize their anxieties.

For an interesting review of ways to avoid stalled impact efforts, Ernest Houses's previously cited article "The Micropolitics of Innovation: Nine Propositions" is an excellent resource. He reminds innovators that educational change depends on people. To neglect a teacher's need to feel he is accomplishing something that makes a difference to students or to minimize the need for extrinsic rewards can derail even the most theoretically powerful efforts to improve the quality of public schooling. As the National Task Force on the Improvement and Reform of American Education concludes,

> The individual teacher working with students is the ultimate test of the effectiveness of any change--in materials, techniques, school organization, or governance. What should work sometimes doesn't, perhaps because the teacher has been forced to accept a new approach, perhaps because the teacher has had too little share in designing or modifying new materials.[50]

Parting Thoughts

My remarks are not intended as a blanket indictment of the educators and researchers who during the past two decades have labored and lobbied in the best interests of American schoolchildren. At the same time, I do believe that good intentions have not been sufficient to prevent some inexcusable instances of teacher and student exploitation and of fiscal mismanagement. Built into the change process in education, as in other areas, is the potential for negative by-products. Being alert to them is caring about the educational significance rather than the statistical significance of innovations.[51]

Innovators must begin to question whether intensive, experimental, externally funded efforts to make an impact are always more desirable than simply encouraging practitioners to perform their jobs more capably. The experience of the British with the gradual evolution of "open education," as American observers have called it, illustrates the fact that worthwhile advances can be made without large-scale infusions of money, expertise, or even new ideas. Charles Silberman quotes a British pedagogue on the subject:

> "I should love to be able to believe that the primary teachers who in the past three decades have brought about such important changes in outlook did so from a base of deeply considered educational policy coupled with splendid practical foresight concerning the needs of society in the future," Sybil Marshall of the University of Sussex, herself an important figure in the change, has written; "but looking back myself over thirty-plus years of teaching I cannot honestly do so." Like Kanga in Winnie-the-Pooh, these teachers out of simple concern for the children in their care, "did a Good Thing without knowing it."[52]

American educators seem unwilling to acknowledge the value of this kind of gradual cultivation of school improvements. Instead, the past twenty years in this country have witnessed what I view as the general overcommitment of innovators.

There are probably various explanations for this overcommitment, but I feel that one lies at the heart of the problem. Few critics of American education fail to comment on the enormous variety of fads to which it is subject. Each fad or incomplete innovation creates an unfinished agenda of sorts. In the frenetic race for external funds and personal advancement, innovators scrap experiments that are no longer eye-catching or newsworthy. Yet, they cannot ignore totally these stillborn efforts to make an impact, so they try to incorporate elements of unfinished agendas into their latest enterprises. As a result, a given project becomes loaded down with so many different objectives and the hopes and aspirations of so many different individuals that it is doomed to failure.

I wish to argue the value of rewarding those who perform their jobs competently and with professional integrity, instead of reserving praise solely for those with clever ideas. The "place-bound" administrator who remains to see ideas take root needs fully as much recognition as the transient "career-bound" administrator who flits from one innovation or school to another. The educator willing to replicate or rework established ideas deserves as much support and encouragement as the one who will not touch an old idea. Unless the reward structure in education is altered, the capacity to concentrate on solving complex problems over long periods of time may never be properly developed.

The beauty (and success) of the National Aeronautics and Space Administration has been its capacity to concentrate, by which I mean the ability to focus energy and expertise on a single objective rather than trying to solve a host of problems simultaneously. Naturally there are problems in education that cannot be compared to those faced by NASA, but I am convinced educators can profit from a similar singularity of purpose. In addition, a reasoned regard for that which has already been attempted might offset the present obsession with ideas that lack precedent or parallel. Harry Broudy reminds educators that they do not yet have a proper set of priorities:

> There is no set of ideas about anything in education that the professional teacher or teacher of teachers feels obliged to learn or to consider. Members of coteries cite each others' works, but not the works of other coteries. Research is rarely replicated. Each graduate student is encouraged to produce something new, with the result that we have mountains of research studies, but no basic literature. This is one reason for "newness" being so widely used as a criterion by funding agencies. A practice is good if nobody can recall its being done before, and a benign neglect of history assures us of never-ending originality.[53]

Notes

[1]Among the more perceptive works are Roland Barth, Open Education and the American School (New York: Agathon Press, 1972); Anneke E. Bredo and Eric R. Bredo, "A Case Study of Educational Innovation in a Junior High School: Interaction of Environment and Structure," Research and Development Memorandum No. 132 (Stanford, Ca.: Stanford Center for Research and Development in Teaching, 1975); Matthew B. Miles (ed.), Innovation in Education (New York: Teachers College Press, 1964); Seymour B. Sarason, The Culture of the School and the Problem of Change (Boston: Allyn and Bacon, 1971); and Louis M. Smith and Pat M. Keith, Anatomy of an Educational Innovation (New York: John Wiley, 1971).

[2]Craig N. Locatis and Dennis D. Gooler, "Evaluating Second-Order Consequences: Technology Assessment and Education," Review of Educational Research, vol. 45, no. 2 (Spring 1975), pp. 327-53.

[3]Geraldine Joncich Clifford, "A History of the Impact of Research on Teaching," in Robert M. W. Travers (ed.), Second Handbook of Research on Teaching (Chicago: Rand McNally, 1973), p. 2.

[4]Harold Spears, "Kappans Ponder Typical School Procedures," Phi Delta Kappan, vol. 54, no. 9 (May 1973), p. 617.

[5]Clifford, pp. 24-25.

[6]An Organisation for Economic Cooperation and Development report is less charitable than I. It contends, "The weakest part of the process [of change]...seems to be the problem-identification phase. This phase is more a political process than an empirical one." See Case Studies of Educational Innovation, vol. IV: Strategies for Innovation in Education (Paris: Organisation for Economic Cooperation and Development, 1973), p. 14. Additional skepticism concerning the motives of innovators comes from Margaret Nelson and Sam D. Sieber, "Innovations in Urban Secondary Schools," School Review, vol. 84, no. 2 (Feb. 1976), p. 214. They conclude that the widespread appeal of many expensive innovations is due primarily to their "publicity value for the organization," not to any deep commitment to improving the quality of schooling.

[7]Bredo and Bredo, pp. 16-17.

[8]J. Lloyd Trump and William Georgiades, "Which Elements of School Programs Are Easier to Change and Which Are Most Difficult--And Why?" Bulletin of the National Association of Secondary School Principals, vol. 55, no. 355 (May 1971), p. 56.

[9]Roy A. Edelfelt, Ronald Corwin, and Elizabeth Hanna, Lessons from the Teacher Corps (Washington, D.C.: National Education Association, 1974), p. 59.

[10]Sarason, p. 193.

[11]Sloan R. Wayland, "Structural Features of American Education as Basic Factors in Innovation," in Miles (ed.), Innovation in Education, p. 588.

[12]Refer to Sarason's previously cited work along with the Organisation for Economic Cooperation and Development report (p. 15). In addition, see Frederick R. Smith and James A. Mackey, "Creating an Appropriate Social Setting for Inquiry," Phi Delta Kappan, vol. 50, no. 8 (April 1969), pp. 462-66.

[13]William L. Smith, "Facing the Next Ten Years," Journal of Teacher Education, vol. 26, no. 2 (Summer 1975), p. 152.

[14]Arthur L. Stinchcombe, "Social Structure and Organizations," in James G. March (ed.), Handbook of Organizations (Chicago: Rand McNally, 1965), pp. 148-50.

[15]Edelfelt, et al., p. 47.

[16]Sarason, p. 41.

[17]G. Thomas Fox, Jr. (ed.), "Federal Role in School Reform from Sociological and Educational Perspectives" (n.p., n.d.), p. 44.

[18]Daniel Weiler, "A Public School Voucher Demonstration: The First Year of Alum Rock Summary and Conclusions," in Gene V. Glass (ed.), Evaluation Studies Review Annual, Volume 1 (Beverly Hills, Ca.: Sage Publications, 1976), p. 293.

[19]Bredo and Bredo, p. 10.

[20]Forrest Parkay, "Innovation in a Chicago Inner-City High School," Phi Delta Kappan, vol. 57, no. 6 (Feb. 1976), p. 385.

[21]Refer to various examples in H. H. Russell, K. A. Leithwood, and R. P. Baxter, The Peterborough Project: A Case Study of Educational Change and Innovation (Toronto: Ontario Institute for Studies in Education, 1973). Also see Sarason, pp. 215-16.

[22]Smith and Keith, pp. 70-71 and 381-82.

[23]This remark was recorded during an orientation address to Tenth Cycle Teacher Corps project participants in Richmond, Virginia (1975).

[24]Fox, p. 64.

[25]Refer to Keith Spalding's "The Relevance of Federal Programs to the Purpose of the Institution," Educational Record, vol. 47, no. 2 (Spring 1966), pp. 138-47, for a discussion of the problems created by economic dependence for institutions of higher learning. Peter Schrag noted several years later that the Kennedy-Johnson prescription of massive infusions of federal money and bureaucratic expertise to solve complex social and educational problems had not proved a successful treatment. Peter Schrag, "End of the Impossible Dream," Saturday Review (Sept. 19, 1970), pp. 68-69.

[26]Gene Mulcahy, "The Shanti Evaluation: Even Wilbur and Orville Couldn't Make It Fly," Changing Schools, no. 14 (1975), p. 10.

[27]Oren Glick, untitled paper prepared for the 1976 AERA Symposium "Internal Evaluation in the Experimental Schools Projects," p. 19.

[28]Organisation for Economic Cooperation and Development, p. 19.

[29]Matthew B. Miles, "Innovation in Education: Some Generalizations" in Miles (ed.), Innovation in Education, p. 657.

[30]"Weaknesses in Current Evaluation of Research," Phi Delta Kappan, vol. 51, no. 2 (Oct. 1969), p. 103.

[31]Egon G. Guba, "Problems in Utilizing the Results of Evaluation," Journal of Research and Development in Education, vol. 8, no. 3 (1975), p. 52.

[32]Melvin Tumin, "Foreword," in Ronald G. Corwin, Reform and Organizational Survival: The Teacher Corps as an Instrument of Educational Change (New York: John Wiley, 1973), p. x.

[33]Carolyn H. Denham, "Can Politicians Trust Evaluators? A Case Study of ECE Evaluation in California," Phi Delta Kappan, vol. 57, no. 8 (April 1976), p. 531.

[34]Stuart B. Palonsky, "Hempies and Squeaks, Truckers and Cruisers--A Participant Observer Study in a City High School," Educational Administration Quarterly, nol. 11, no. 2 (Spring 1975), p. 97.

[35]Martin L. Maehr, "Continuing Motivation: An Analysis of a Seldom Considered Educational Outcome," Review of Educational Research, vol. 46, no. 3 (Fall 1976), p. 451.

[36]Guba, pp. 51-52.

[37]Gordon N. MacKenzie, "Curricular Change: Participants, Power, and Processes," in Miles (ed.), Innovation in Education, pp. 423-24.

[38]Barth, pp. 137-38.

[39]Parkay, p. 388.

[40]Ibid.

[41]Nelson and Sieber, p. 215.

[42]Mary M. Bentzen, Changing Schools: The Magic Feather Principle (New York: McGraw-Hill, 1974).

[43]Teacher, vol. 91, no. 5 (Jan. 1974), p. 25.

[44]Paul E. Steiger, "HEW Grants: Waste, Mixups Plague Projects," Los Angeles Times, Friday, September 15, 1972.

[45]Russell, et al., pp. 24-25.

[46]Organisation for Economic Cooperation and Development, p. 16.

[47]Bredo and Bredo, pp. 20-21.

[48]Broudy, p. 7.

[49]Ernest R. House, "The Micropolitics of Innovation: Nine Propositions," Phi Delta Kappan, vol. 57, no. 5 (Jan. 1976), p. 338.

[50]U.S. Department of Health, Education, and Welfare, Working Together: The Final Report and Recommendations of the Basic Studies National Field Task Force on the Improvement and Reform of American Education (Washington, D.C.: U.S. Government Printing Office, 1974), p. 19.

[51]The differences between educational significance and statistical significance were outlined in a presentation by Michael Scriven of the University of California at Berkeley at Stanford University's School of Education on May 20, 1976.

[52]Charles E. Silberman, Crisis in the Classroom (New York: Vintage Books, 1971), p. 213.

[53]Broudy, p. 147.